

Supplementary Data

Specific protein complexes were used to optimize evidence-specific error rate estimates for performance of the “Probabilistic Network” (ProNet) method in detecting left-out complex members. Another collection of protein complexes (distinct from the training set) were used to compare performance of PN with the more naïve “Shortest Path with Evidence” (SPE) method.

Protein complexes used as a training set

ORF ID	Gene Name
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10 nm filaments (8 ORFs)

YCR002c	CDC10
YDL225w	SHS1
YDR218c	SPR28
YGR059w	SPR3
YHR107c	CDC12
YJR076c	CDC11
YLR314c	CDC3
YML104c	MDM1

Exocyst complex (7 ORFs)

YDR166c	SEC5
YER008c	SEC3
YGL233w	SEC15
YIL068c	SEC6
YJL085w	EXO70
YLR166c	SEC10
YPR055w	SEC8

Clathrin-associated protein (AP) complex (13 ORFs)

YBL037w	APL3
YBR288c	APM3
YGR261c	APL6
YHL019c	APM2
YJL024c	APS3
YJR005w	APL1
YJR058c	APS2
YKL135c	APL2
YLR170c	APS1

YOL062c	APM4
YPL195w	APL5
YPL259c	APM1
YPR029c	APL4

COPI (8 ORFs)

YDL145c	COP1
YDL192w	ARF1
YDR238c	SEC26
YFR051c	RET2
YGL137w	SEC27
YIL076w	SEC28
YNL287w	SEC21
YPL010w	RET3

COPII (11 ORFs)

YAL007c	ERP2
YAL042w	ERV46
YAR002c-a	ERP1
YDL195w	SEC31
YGL200c	EMP24
YIL109c	SEC24
YLR208w	SEC13
YML012w	ERV25
YPL085w	SEC16
YPL218w	SAR1
YPR181c	SEC23

20S proteasome (15 ORFs)

YBL041w	PRE7
YBR173c	UMP1
YER012w	PRE1
YER094c	PUP3
YFR050c	PRE4
YGL011c	SCL1
YGR135w	PRE9
YGR253c	PUP2
YJL001w	PRE3
YML092c	PRE8

YMR314w	PRE5
YOL038w	PRE6
YOR157c	PUP1
YOR362c	PRE10
YPR103w	PRE2

Post-replication complex (Origin recognition complex=ORC) (6 ORFs)

YBR060c	ORC2
YHR118c	ORC6
YLL004w	ORC3
YML065w	ORC1
YNL261w	ORC5
YPR162c	ORC4

Protein complexes used in described examples

ORF ID Gene Name

SAGA complex (13 ORFs)

YBR081C	SPT7
YBR198C	TAF5
YDR145W	TAF12
YDR167W	TAF10
YDR176W	NGG1
YDR392W	SPT3
YDR448W	ADA2
YGL112C	TAF6
YGR252W	GCN5
YHR099W	TRA1
YLR055C	SPT8
YMR236W	TAF9
YOL148C	SPT20

NOT complex (5 ORFs)

YCR093W	CDC39
YDL165W	CDC36
YER068W	MOT2
YIL038C	NOT3

YPR072W	NOT5
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Arp2p/Arp3p complex (6 ORFs)

YDL029W	ARP2
YIL062C	ARC15
YJR065C	ARP3
YKL013C	ARC19
YLR370C	ARC18
YNR035C	ARC 35

Replication factor C complex (5 ORFs)

YBR087W	RFC5
YJR068W	RFC2
YNL290W	RFC3
YOL094C	RFC4
YOR217W	RFC1

Protein complexes used as a test set

ORF ID	Gene Name
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2-oxoglutarate dehydrogenase (3 ORFs)

YDR148c	KGD2
YFL018c	LPD1
YIL125w	KGD1

Alpha, alpha-trehalose-phosphate synthase (4 ORFs)

YBR126c	TPS1
YDR074w	TPS2
YML100w	TSL1
YMR261c	TPS3

Anaphase promoting complex (APC) (11 ORFs)

YBL084c	CDC27
YDL008w	APC11
YDR118w	APC4

YFR036w	CDC26
YGL240w	DOC1
YHR166c	CDC23
YKL022c	CDC16
YLR102c	APC9
YLR127c	APC2
YNL172w	APC1
YOR249c	APC5

Chromatin assembly complex (CAC) (3 ORFs)

YBR195c	MSI1
YML102w	CAC2
YPR018w	RLF2

Calcineurin B (3 ORFs)

YKL190w	CNB1
YLR433c	CNA1
YML057w	CMP2

cAMP-dependent protein kinase (4 ORFs)

YIL033c	BCY1
YJL164c	TPK1
YKL166c	TPK3
YPL203w	TPK2

Casein kinase I (4 ORFs)

YER123w	YCK3
YHR135c	YCK1
YNL154c	YCK2
YPL204w	HRR25

Chaperonine containing T-complex TRiC (TCP RING Complex) (8 ORFs)

YDL143w	CCT4
YDR188w	CCT6
YDR212w	TCP1
YIL142w	CCT2
YJL008c	CCT8
YJL014w	CCT3
YJL111w	CCT7

YJR064w	CCT5
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Cdc28p complexes (10 ORFs)

YAL040c	CLN3
YBR160w	CDC28
YDL155w	CLB3
YGR108w	CLB1
YGR109c	CLB6
YLR210w	CLB4
YMR199w	CLN1
YPL256c	CLN2
YPR119w	CLB2
YPR120c	CLB5

Gim complexes (5 ORFs)

YEL003w	GIM4
YGR078c	PAC10
YLR200w	YKE2
YML094w	GIM5
YNL153c	GIM3

1,3-beta-D-glucan synthase (3 ORFs)

YCR034w	FEN1
YGR032w	GSC2
YLR342w	FKS1

Glycine decarboxylase (4 ORFs)

YAL044c	GCV3
YDR019c	GCV1
YFL018c	LPD1
YMR189w	GCV2

H⁺ATPase, plasma mebrane (4 ORFs)

YCR024c-a	PMP1
YEL017c-a	PMP2
YGL008c	PMA1
YPL036w	PMA2

H⁺transporting ATPase, vacuolar (15 ORFs)

YBR127c	VMA2
YDL184w-b	TFP1
YDL185w	TFP1
YEL027w	CUP5
YEL051w	VMA8
YGR020c	VMA7
YHR026w	PPA1
YHR039c-a	VMA10
YKL080w	VMA5
YLR447c	VMA6
YMR054w	STV1
YOR270c	VPH1
YOR332w	VMA4
YPL234c	TFP3
YPR036w	VMA13

TOM - transport across the outer membrane (9 ORFs)

YGR082w	TOM20
YHR117w	TOM71
YMR060c	TOM37
YMR203w	TOM40
YNL070w	TOM7
YNL121c	TOM70
YNL131w	TOM22
YOR045w	TOM6
YPR133w-a	TOM5

Nonsense-mediated mRNA decay pathway complex (3 ORFs)

YGR072w	UPF3
YHR077c	NMD2
YMR080c	NAM7

NSP1 complex (4 ORFs)

YFR002w	NIC96
YGL172w	NUP49
YGR119c	NUP57
YJL041w	NSP1

Nucleosomal protein complex (8 ORFs)

YBL002w	HTB2
YBL003c	HTA2
YBR009c	HHF1
YBR010w	HHT1
YDR224c	HTB1
YDR225w	HTA1
YNL030w	HHF2
YNL031c	HHT2

Phenylalanine-tRNA-ligase (3 ORFs)

YFL022c	FRS2
YLR060w	FRS1
YPR047w	MSF1

Pyruvate dehydrogenase (5 ORFs)

YBR221c	PDB1
YER178w	PDA1
YFL018c	LPD1
YGR193c	PDX1
YNL071w	LAT1

RSC complex (Remodel the structure of chromatin) (10 ORFs)

YCR052w	RSC6
YFR037c	RSC8
YGR056w	RSC1
YIL126w	STH1
YKR008w	RSC4
YLR321c	SFH1
YLR357w	RSC2
YMR033w	ARP9
YOR213c	SAS5
YPR034w	ARP7

Ribonucleoside-diphosphate reductase (4 ORFs)

YER070w	RNR1
YGR180c	RNR4
YIL066c	RNR3
YJL026w	RNR2

SCF-CDC4 complex (4 ORFs)

YDL132w	CDC53
YDR054c	CDC34
YDR328c	SKP1
YFL009w	CDC4

Serine/threonine phosphoprotein phosphatase (6 ORFs)

YDR028c	REG1
YER054c	GIP2
YER133w	GLC7
YKL193c	SDS22
YMR311c	GLC8
YOR178c	GAC1

SNF1 complex (6 ORFs)

YDR422c	SIP1
YDR477w	SNF1
YER027c	GAL83
YGL115w	SNF4
YGL208w	SIP2
YJL089w	SIP4

Synaptonemal complex (SC) (3 ORFs)

YDR285w	ZIP1
YIL072w	HOP1
YLR263w	RED1

RNA polymerase I (14 ORFs)

YBR154c	RPB5
YDR156w	RPA14
YHR143w-a	RPC10
YJL148w	RPA34
YJR063w	RPA12
YNL113w	RPC19
YNL248c	RPA49
YOR210w	RPB10
YOR224c	RPB8
YOR340c	RPA43
YOR341w	RPA190

YPR010c

YPR110c

YPR187w

RPA135

RPC40

RPO26